

Remarks

In view of the above amendments and the following remarks, reconsideration of the objection and rejections, and further examination are requested.

The specification and abstract have been reviewed and revised to make a number of editorial revisions thereto. A substitute specification and abstract including the revisions have been prepared and are submitted herewith. No new matter has been added. Also submitted herewith are marked-up copies of the specification and abstract indicating the changes incorporated therein.

Figures 8 and 14 have been objected to as including reference characters not included in the specification. Submitted herewith are replacement Figures 8 and 14 which do not include these reference characters. No new matter has been added. As a result, withdrawal of the objection to the drawings is respectfully requested.

Claims 6-23 have been indicated as containing allowable subject matter. The Applicants would like to thank the Examiner for this indication of allowable subject matter.

Claims 1-28 have been rejected under 35 U.S.C. §112, second paragraph. Claims 1, 2, 6, 8, 10-16, 18, 20-25 and 27 have been amended so as to address this rejection. Further, claims 26 and 28 have been canceled without prejudice or disclaimer to the subject matter contained therein. As a result, withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claims 27 and 28 have been rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. As noted above, claim 28 has been canceled without prejudice or disclaimer to the subject matter contained therein. Further, claim 27 has been amended so as to address this rejection. As a result, withdrawal of the rejection under 35 U.S.C. §101 is respectfully requested.

Claims 1-3 and 24-28 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Rosch (US 6,883,104) in view of Horne (US 5,237,694). Claims 4 and 5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Rosch in view of Horne and further in view of Tani (US 6,826,705).

Claims 1, 24, 25 and 27 have been amended so as to further distinguish the present invention, as recited therein, from the references relied upon in the above-mentioned rejections.

Further, claims 1, 2, 4-25 and 27 have been amended to make a number of editorial revisions thereto. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, or to address issues related to patentability, and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

It is submitted that the above-mentioned rejections are inapplicable to the amended claims for the following reasons.

Claim 1 is patentable over the combination of Rosch and Horne, since claim 1 recites an information processing apparatus including, in part, a specific processing section detector for detecting a start and an end of a specific processing section which is a section during which a predetermined specific processing is executed, wherein the specific processing section detector is operable to detect the start of the specific processing section upon entering the specific processing section from a normal processing section during which the specific processing is not executed and the end of the specific processing section upon returning from the specific processing section to the normal processing section. The combination of Rosch and Horne fails to disclose or suggest the specific processing section detector as recited in claim 1.

Rosch discloses a monitoring module operable to monitor the operation of a microprocessor 10 and determine at what speed (i.e., high or low) the microprocessor 10 should be operating. The monitoring process performed by the monitoring module is keyed to a timer interrupt that occurs 18.2 times per second (i.e., every 55 ms) such that the monitoring occurs periodically. Upon the occurrence of the timer interrupt, the monitoring process searches the instruction stream of the microprocessor 10 to determine whether or not an interrupt or a critical instruction has occurred. If the monitoring process finds an interrupt or a critical instruction, the monitoring process immediately exits the timer interrupt service routine and performs a high-speed exit routine 60. If neither event is present, the monitoring process continues until it reaches a predetermined critical value at which time the monitoring process issues an instruction such that the microprocessor 10 runs at the low speed.

Once in the high-speed exit routine 60, the monitoring process verifies whether or not the microprocessor 10 is operating at the high speed. If the microprocessor 10 is running at the high speed, the monitoring process maintains the microprocessor 10 at the high speed. If the

microprocessor 10 is running at the low speed, the monitoring process instructs the microprocessor 10 to begin running at the high speed. (See column 5, line 61 – column 6, line 67 and Figure 2).

Based on the above discussion, the monitoring process is performed periodically in accordance with the timer interrupt to determine whether or not an interrupt or critical instruction has been generated. Upon the occurrence of one of these two events, the monitoring process increases the clock frequency of the microprocessor 10. Further, if neither of these events is verified, the monitoring process reduces the clock frequency of the microprocessor 10. Therefore, in the monitoring process of Rosch, the presence of a critical instruction or an interrupt can only be verified once every 55 ms, and the power saving control cannot be performed in real time.

In light of the above and as admitted in the rejection, Rosch fails to disclose or suggest that the monitoring process detects a start and an end of a specific processing section which is a section during which a predetermined specific processing is executed, wherein the start of the specific processing section is detected upon entering the specific processing section from a normal processing section during which the specific processing is not executed and the end of the specific processing section is detected upon returning from the specific processing section to the normal processing section. Since Rosch fails to disclose or suggest the specific processing section detector as recited in claim 1, Horne must necessarily disclose or suggest this feature in order for the combination of Rosch and Horne to render claim 1 obvious.

Regarding Horne, it discloses a processing system arranged to permit only one processor subsystem to execute a critical program section at a time when the execution of the critical program section requires the use of processing system resources shared with at least one other processor subsystem. The processing system includes a memory portion for storing a value of an interlock variable, the interlock variable having a busy value indicating that a processor subsystem is currently executing a critical program section or a value indicating that none of the processor subsystems is currently executing a critical program section. The processing system further includes a control means associated with each processor subsystem that is responsive to a command instruction from its associated processor indicating the start of a critical program section for detecting the value of the interlock variable. The control means also conveys to its associated processor the busy value or the available value in the memory portion such that the

processor will know whether or not to start the critical program section. (See column 5, line 56 – column 6, line 30).

As discussed above, it is apparent that the processing system of Horne discloses the detection of the start of the critical program section. However, it is clear that Horne fails to disclose or suggest that the control means, or any other element of the processing system, detects the end of the critical program section. As a result, it is apparent that Horne fails to disclose or suggest the specific processing section detector as recited in claim 1. Since Horne fails to address the deficiency of Rosch, it is apparent that the combination of Rosch and Horne fails to render claim 1 obvious.

Regarding Tani, it is relied upon as disclosing a clock controller that is capable of increasing a clock frequency in a stepwise manner. However, Tani also fails to disclose or suggest the specific processing section detector as recited in claim 1.

Further, it is noted that one of the benefits of the present invention, as recited in claim 1, is that since the specific processing section detector is operable to detect both the start and the end of the specific processing section, the specific processing section can be detected in real time. Therefore, the power saving control can likewise be performed in real time.

Regarding claims 24, 25 and 27, they are patentable over the references relied upon in the rejections for reasons similar to those set forth above in support of claim 1. That is, claims 24, 25 and 27 each recite, in part, the detection of a start and an end of a specific processing section which is a section during which a predetermined specific processing is executed, wherein the start of the specific processing section is detected upon entering the specific processing section from a normal processing section during which the specific processing is not executed and the end of the specific processing section is detected upon returning from the specific processing section to the normal processing section, which features are not disclosed or suggested by the references.

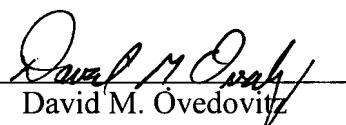
Because of the above-mentioned distinctions, it is believed clear that claims 1-25 and 27 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-

25 and 27. Therefore, it is submitted that claims 1-25 and 27 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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